

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------|
| <b>TRANSMITTAL LETTER TO THE UNITED STATES<br/>DESIGNATED/ELECTED OFFICE (DO/EO/US)<br/>CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                               | ATTORNEY'S DOCKET NO.<br>1001560-000597                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               | U.S. APPLICATION NO. (If known)<br><b>10/283149</b><br>Unassigned |
| INTERNATIONAL APPLICATION NO.<br>PCT/JP2004/019151                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | INTERNATIONAL FILING DATE<br>15 December 2004 | PRIORITY DATE CLAIMED<br>17 December 2003                         |
| TITLE OF INVENTION<br>VALVE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |                                                                   |
| APPLICANT(S) FOR DO/EO/US<br>Toshihiro HANADA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |                                                                   |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                               |                                                                   |
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.</li> <li>4. <input type="checkbox"/> The US has been elected (Article 31).</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is attached hereto.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ol> </li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</li> <li>10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</li> </ol> <p>Items 11 to 20 below concern document(s) or information included:</p> <ol style="list-style-type: none"> <li>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>13. <input type="checkbox"/> A preliminary amendment.</li> <li>14. <input checked="" type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</li> <li>15. <input type="checkbox"/> A substitute specification.</li> <li>16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter.</li> <li>17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821-1.825.</li> <li>18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</li> <li>19. <input type="checkbox"/> A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4).</li> </ol> <p>Other items or information: 1) General Authorization for Petitions for Extensions of Time and Payment of Fees; 2) PCT/IB/308; 3) PCT Request Form; 4) PCT/ISA/210 (International Search Report- attached to IDS); and 5) a copy of the first two pages of the International Application as published in Japanese - PCT/JP2004/019151.</p> |                                               |                                                                   |

|                                                     |                                                    |                                         |
|-----------------------------------------------------|----------------------------------------------------|-----------------------------------------|
| U.S. APPLICATION NO. <b>10/583145</b><br>Unassigned | INTERNATIONAL APPLICATION NO.<br>PCT/JP2004/019151 | ATTORNEY'S DOCKET NO.<br>1001560-000597 |
|-----------------------------------------------------|----------------------------------------------------|-----------------------------------------|

|                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       |                        |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------|------------------------|--------------|
| The following fees have been submitted:                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | CALCULATIONS           | PTO USE ONLY |
| 21. <input checked="" type="checkbox"/>                                                                                                                                                                       | Basic National fee (37 CFR 1.492(a)) (1631) \$ 300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                               |       | \$ 300                 |              |
| 22. <input checked="" type="checkbox"/>                                                                                                                                                                       | Examination fee (37 CFR 1.492(c))<br>If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) (1643) \$ 0<br>All other situations (1633) \$ 200                                                                                                                                                                                                                                                                                                        |                                                                               |       | \$ 200                 |              |
| 23. <input checked="" type="checkbox"/>                                                                                                                                                                       | Search fee (37 CFR 1.492(b))<br>If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) (1640) \$ 0<br>Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority (1641) \$ 100<br>International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB (1642) \$ 400<br>All other situations (1632) \$ 500 |                                                                               |       | \$ 500                 |              |
| <b>TOTAL OF 21, 22 AND 23 =</b>                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | <b>\$ 1000</b>         |              |
| <input type="checkbox"/>                                                                                                                                                                                      | Additional fee for specifications and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)).<br>The fee is 250 (1681) for each additional 50 sheets of paper or fraction thereof.                                                                                                                                                                                                                                                                 |                                                                               |       |                        |              |
| Total Sheets                                                                                                                                                                                                  | Extra Sheets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Number of each additional 50 or fraction thereof (round up to a whole number) |       | RATE                   |              |
| 0                                                                                                                                                                                                             | -100 =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0                                                                             | /50 = | 0                      | x \$ 250     |
| <input type="checkbox"/> Surcharge of \$ 130 (1617) for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | \$ 0                   |              |
| CLAIMS                                                                                                                                                                                                        | NUMBER FILED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | NUMBER EXTRA                                                                  | RATE  |                        |              |
| Total claims                                                                                                                                                                                                  | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | - 20 =                                                                        | 0     | x \$ 50 (1615)         | \$ 0         |
| Independent Claims                                                                                                                                                                                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - 3 =                                                                         | 0     | x \$ 200 (1614)        | \$ 0         |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable)                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | + \$ 360 (1616)        | \$ 0         |
| <b>TOTAL OF ABOVE CALCULATIONS =</b>                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | <b>\$ 1000</b>         |              |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | 0                      |              |
| <b>SUBTOTAL =</b>                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | <b>\$ 1000</b>         |              |
| Processing fee of \$ 130 (1618) for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | +                      | 0            |
| <b>TOTAL NATIONAL FEE =</b>                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | <b>\$ 1000</b>         |              |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$ 40 per property                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | +                      | 40           |
| <b>TOTAL FEES ENCLOSED =</b>                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | <b>\$ 1040</b>         |              |
|                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | Amount to be refunded: | \$           |
|                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               |       | Amount to be charged:  | \$           |

a. ☐ A check in the amount of \_\_\_\_\_ to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. 02-4800 in the amount of \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.

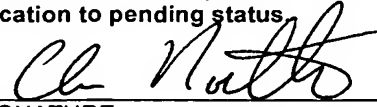
c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

d. ☒ Charge \$ 1040 to credit card. Form PTO-2038 is attached.

**NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.**

SEND ALL CORRESPONDENCE TO:

Customer No **21839**  
P.O. Box 1404  
Alexandria, VA 22313-1404  
703.836.6620  
Date: June 16, 2006

  
SIGNATURE

Christopher L. North  
NAME

50433  
REGISTRATION NO.